

3/24/05

FOREIGN PATENT DOCUMENTS

TRANSLATION

OTHER DOCUMENTS (including Author, Title, Date, Pertinent pages, etc.)

| | |
|----|--|
| V4 | AKASAKI et al., "MOVPE Growth of GaN and Al _x Ga _{1-x} N and Their Luminescence and Electrical Properties," Memoirs of the Faculty of Engineering, Nagoya Univ., Vol. 43, No. 2 (1991) |
| V4 | Williams Modern GaAs Processing Method (1990), p. 219 |
| V4 | Database WPI, Week 9444, Derwent Publications Ltd., London, Nichia Kagaku Kogyo KK (see Abstract) |
| V4 | JP 6275868 (09/30/1994) (see Abstract) |
| N4 | Written Opposition dated January 15, 2001, p. 1-3 |
| V4 | Written Opposition dated January 19, 2001, pp. 1-5 |

— 1 —

N-Yastrow

Date Considered

08/10/05

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to application.

07/01/03

10/609,410

| | | |
|------------------------------------|------------------------------------|---|
| INFORMATION DISCLOSURE CITATION | ATTY. DOCKET NO. <u>160-386</u> | DIVISIONAL OF SERIAL NO. <u>10/292,583</u> |
| (Use several sheets if necessary) | APPLICANT <u>NAKAMURA et al</u> | |
| | FILING DATE <u>July 1, 2003</u> | GROUP |
| U.S. PATENT DOCUMENTS | | |
| *EXAMINER | | FILING DATE |

U.S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS

| DOCUMENT | DATE | COUNTRY | CLASS | SUBCLASS | TRANSLATION | |
|--------------|---------|---------|-------|----------|-------------|----|
| | | | | | YES | NO |
| 03-218625 | 9/1991 | Japan | | | abs | |
| 05-013812 | 1/1993 | Japan | | | abs | |
| 51-85384 | 7/1976 | Japan | | | abs | |
| 56-81986 | 7/1981 | Japan | | | abs | |
| 61-144659 | 9/1986 | Japan | | | abs | |
| 63-61161 | 4/1988 | Japan | | | abs | |
| 61-87381 | 5/1986 | Japan | | | abs | |
| 02-229475 | 9/1990 | Japan | | | abs | |
| 59228776 | 12/1984 | Japan | | | abs | |
| 55009442 A | 1/1980 | Japan | | | abs | |
| 1990-0701577 | 7/1990 | Korea | | | abs | |
| 5-211347 | 8/1993 | Japan | | | | |
| 3-183173 | 8/1991 | Japan | | | | |
| 4-68579 | 3/1992 | Japan | | | | |
| 5-129658 | 5/1993 | Japan | | | | |
| 57-111076 | 7/1982 | Japan | | | | |
| 5-13816 | 1/1993 | Japan | | | | |
| 62-2675 | 1/1987 | Japan | | | | |
| 62-287675 | 12/1987 | Japan | | | | |
| 83103775 | 4/1994 | Taiwan | | | | |
| 7-45867 | 2/1995 | Japan | | | | |
| 5-291621 | 11/1993 | Japan | | | | |
| 5-129658 | 5/93 | Japan | | | | |
| 0 483 688 A3 | 5/92 | Europe | | | | |
| 0 483 688 A2 | 5/92 | Europe | | | | |
| 228776 | 12/84 | Japan | | | | |
| 57-45272 | 3/82 | Japan | | | | |

Examiner V. M. L. S. K. R. Date Considered 04/26/05

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to application.

Form PTO-FB-A820 (Also PTO-1449)

BEST AVAILABLE COPY

752625

| INFORMATION DISCLOSURE CITATION | | ATTY. DOCKET NO. 160-386 | DIVISIONAL OF SERIAL NO. 10/292,583 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------|-----------------------------|--|---------------------------------|--|--|--|----|---------|------|-------|----|-----------|-------|-------|----|-----------|------|-------|----|------------|------|-------|----|---------|------|-------|----|---------|------|-------|
| | | APPLICANT NAKAMURA et al | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (Use several sheets if necessary) | | FILING DATE July 1, 2003 | GROUP | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="4">FOREIGN PATENT DOCUMENTS (cont)</th> </tr> </thead> <tbody> <tr><td>VY</td><td>6-38265</td><td>5/94</td><td>Japan</td></tr> <tr><td>VY</td><td>59-228776</td><td>12/84</td><td>Japan</td></tr> <tr><td>VY</td><td>62-101090</td><td>5/87</td><td>Japan</td></tr> <tr><td>VY</td><td>10-0225612</td><td>7/99</td><td>Korea</td></tr> <tr><td>VY</td><td>2-68968</td><td>3/90</td><td>Japan</td></tr> <tr><td>VY</td><td>5-13816</td><td>1/93</td><td>Japan</td></tr> </tbody> </table> | | | | FOREIGN PATENT DOCUMENTS (cont) | | | | VY | 6-38265 | 5/94 | Japan | VY | 59-228776 | 12/84 | Japan | VY | 62-101090 | 5/87 | Japan | VY | 10-0225612 | 7/99 | Korea | VY | 2-68968 | 3/90 | Japan | VY | 5-13816 | 1/93 | Japan |
| FOREIGN PATENT DOCUMENTS (cont) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VY | 6-38265 | 5/94 | Japan | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VY | 59-228776 | 12/84 | Japan | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VY | 62-101090 | 5/87 | Japan | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VY | 10-0225612 | 7/99 | Korea | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VY | 2-68968 | 3/90 | Japan | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VY | 5-13816 | 1/93 | Japan | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

OTHER DOCUMENTS (including Author, Title, Date, Pertinent pages, etc.)

| | |
|----|--|
| VY | Oyo Buturi Vol. 60, No. 2, 1991 02; p. 164 |
| ↑ | Hayes et al Proceedings of Symposium B 1990 Extended Abstracts EA-21 Electronic Optical and Device Properties of Layered Structures |
| | Amano et al Japanese Journal of Applied Physics Vol. 28 No. 12, 1989 L2112-L2114 P-Type Conduction in Mg-Doped GaN Treated with Low-Energy Electron Beam Irradiation (LEEBI) |
| | Nakamura et al Jpn J. Appl. Phys. Vol. 31 (1992) pp 1258-1266 Hole Compensation Mechanisms of P-Type GaN Films Dept. Of Electrical Engineering |
| | Su et al Jpn. J. Applied Physics Vol. 30 No. 5, May 1991 914-916 Ohmic Contacts AuGeNi etc. |
| | Amano et al Inst. Phys. Conf. Ser. No. 106: Chapter 10 pp 725-730 UV and blue electroluminescence etc. |
| | Memoirs of the Faculty of Engineering, Nagoya University, Vol. 43, No. 2, 1991 M&vpe Growth of GaN etc. |
| | Williams Modern GaAs Processing Method, 1990 p. 219 |
| | Lin et al Appl. Phys. Lett 64(8), Feb. 1994 pp 1003-1005 Low Resistance ohmic contacts on wide band-gap GaN |
| | Khan et al Appl. Phys. Lett 61 (15) 4/1993 pp. 1786-1787 Metal semiconductor field effect transistor based on single crystal GaN |
| | Japanese KOKAI publication list of patents containing key words "Ni" and "electrode" |
| | Goldenberg et al "Ultraviolet and violet light-emitting..." Appl. Phys. Letts. 62 (1993), 25 Jan. No. 4, pp 381-383 |
| | Foresi et al "Metal contacts to gallium nitride" Appl. Phys. Letts 62 (1993 31 May No. 22, pp. 2859-2861 |
| | Akasaki et al "High efficiency UV..." Proc. of the SPIE, Phys. Concepts of Materials...28 Oct. 1990, Aachen, DE, pp 138-149 |
| | Khan et al "Metal semiconductor field effect..." Appl. Phys. Letts 62 (15), 12 april 1993, pp. 1786-1787 |
| | Nakamura et al "High-power InGan/Gan..." Appl. Phys. Letts. 62 (19) 10 May 1993 pp 2390-2392 |
| | H. Morkoc et al "Large-band-gap SiC..." J. Phys. 76(3), 1 Aug. 1994 pp 1363-1398 |
| | Patent Abstracts of Japan, vol 18 no 80 (E-1505) 9 Feb 1994 & JP-A-05 291 621 (Nichia Chem Inc Ltd.) 5 Nov. 1993 (see abstract). |
| ↓ | Database WPI, Week 9444, Derwent Publications Ltd. London, GB AN 94-352820 & JP A-6 275 868 (Nichia Kagaku Kogyo KK) 20 Sept. 1994, see abstract |
| VY | Database WPI, Week 9438, Derwent Publications Ltd. London GV An 94-308360 & JP A 6 237 012 (Nichia Kagaku Kogyo KK) 23 Au. 1994, see abstract |

*Examiner

V. Yeastman

Date Considered

09/26/05

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-FB-A820 (Also PTO-1449)

BEST AVAILABLE COPY

752628